USER MANUAL

4 CHANNELS

DIGITAL VIDEO RECORDER

026YREB-1.01

INSTRUCTION MANUAL

To obtain the best performance and ensure device function correctly, please read this instruction manual carefully and completely.

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1 INTRODUCTION

1.1 FEATURE

⌘Easy operation; setting can be easily modified on screen.

⌘Multi-speed recording selection on normal or alarm recording mode up to 120/ 100 (NTSC/ PAL)) pictures per second.

⌘ Multi-language.

⌘Support Manual/ Alarm/ Schedule recording mode.

⌘Built-In RS-485 port to control PTZ cameras or Joystick controllers for DVR.

⌘Support CDRW, DVDRW, USB, and Network Backup.

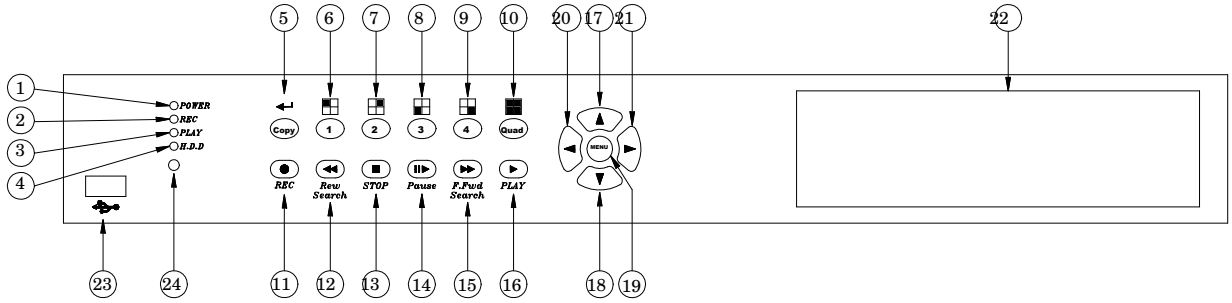
⌘Support 2 x HDD (500GB) to record for up to 6 months with real-time record.

1.2 SPECIFICATION

System Type	NTSC	PAL
Resolution – Live	720×480	720×576
Video Input	BNC × 4	
Video Looping	BNC × 4	
Video Output	BNC × 2	
Audio Input	RCA × 1	
Audio Output	RCA × 1	
Storage Media	Max. 2 x IDE HDD (one Removable)	
Compression Format	MPEG-4	
Recording Rate	720 × 240 up to 30 PPS 360 × 240 up to 120 PPS	720 × 288 up to 25 PPS 360 × 288 up to 100 PPS
Recording Mode	Manual/ Alarm/ Schedule	
Playback Speed	Fast Forward ×2 ×8 ×16 ×32 ×64 Fast Backward ×32 Slow Forward 1/2 1/4 Field by Field Playback	
Title	6 Characters for each Camera	
OSD & Setup	Title/ Time/ Date/ Setup Menu	
Alarm Input	× 4 N.O./ N.C. Programmable	
Relay Output	× 1 N.O./ N.C. Programmable	
RS-485 Port	Yes	
PTZ Control	Yes	
Network Compression Format	MPEG-4	
IR Remote Control	Yes	
Backup	USB, CD R/W, DVD R/W, & Network	
VGA Output	Optional	
Password	For System and HDD Format	
Key Lock	Yes	
Power Input	DC 12V / 5A	
Dimensions W×H×D (mm)	432 (W) × 55 (H) × 321 (D)	
Weight	5.0 Kg	

2 HARDWARE OVERVIEW

2.1 FRONT PANEL

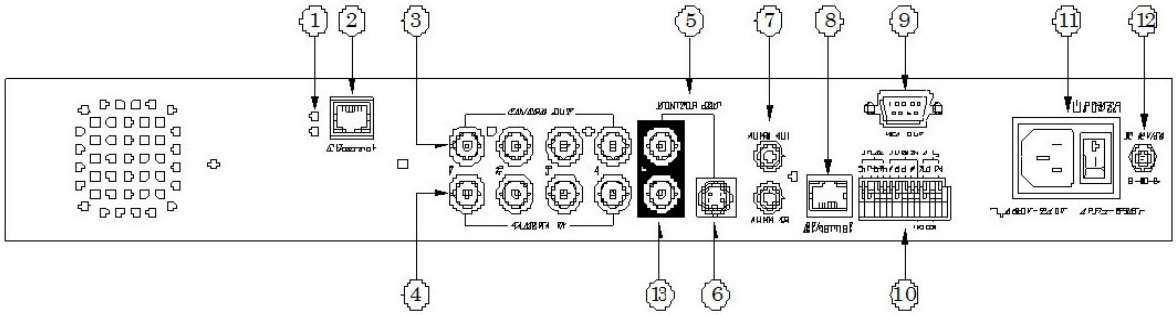


DVR OPERATION

NO.	ITEM	DVR Function	PTZ Function
1	POWER	Power status LED.	
2	REC	Recording status LED.	
3	PLAY	Playback status LED.	
4	H.D.D	H.D.D. LED.	
5	Copy	Confirm or Copy.	
6	1	Channel One Full Screen & Number: One.	
7	2	Channel Two Full Screen & Number: Two.	
8	3	Channel Three Full Screen & Number: Three.	
9	4	Channel Four Full Screen & Number: Four.	
10	Quad	Quad screen: All cameras are displayed.	
11	REC	Recording button.	
12	Rew Search	Fast Backward × 32.	Zoom out
13	STOP	Press STOP to stop playback or recording.	Auto scan
14	Pause	Pause & Field by Field Forward.	Home
15	F.Fwd Search	Fast Forward ×2, ×8, ×16, ×32, ×64.	Enter or Exit PTZ mode

16	▶ PLAY	PLAY button & Get into Quick Time Search.	Zoom in
17	▲	Move upward or increase the number.	Up
18	▼	Move downward or decrease the number.	Down
19	MENU	Press MENU to enter or exit MENU.	PTZ Setup
20	◄	Move leftward or decrease the number.	Left
21	►	Move rightward or increase the number.	Right
22	HDD	HDD, CD R/W, and DVD R/W.	
23		USB connector.	
24	O	IR Sensor for remote control.	

2.2 BACK PANEL



NO.	ITEM	FUNCTION
1	LED	Reserve.
2	Ethernet	Reserve.
3	CAMERA OUT	Camera 1-4 video output with BNC connector.
4	CAMERA IN	Camera 1-4 video input with BNC connector.
5	MONITOR OUT	Composite Output can connect with the monitor directly and support two BNC outputs.
6	S VIDEO OUT	Y/C Output. (Optional)
7	Audio in / out	Audio Input/ Output.
8	Ethernet	RJ-45 Network Interface.
9	VGA OUT (D-SUB)	Connect to CRT or LCD monitor. (Optional)
10	RS-485	4-Pins. Connect to Joystick controller or PTZ control.
	ALARM IN	4-Pins. Alarm input.
	Relay	Relay output.
11	Power/ Power Switch	Reserve.
12	Power	DC 12V /5A.
13	Spot OUT	Spot output

2.3 EXTERNAL ALARM

There are three types of alarms that the system can be configured, such as Motion Detection Alarm, External Alarm, and Video Loss Alarm.

Motion Detection Alarm and External Alarm :

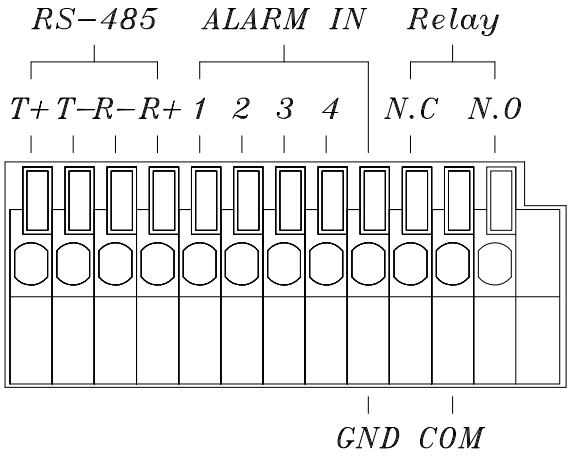
When Motion Detection or External Alarm was triggered, there are 5 possible actions will be taken.

a. Recording speed changed from normal to alarm recording.
b. If Alarm Display Mode of Alarm Setup is ON, when the alarm is triggered, the corresponding full screen alarm channel will be displayed automatically; however, if the alarm is triggered and the setup is done within five seconds, the corresponding full screen alarm channel won't be displayed.
c. It's optional to activate Relay.
d. Motion Detection and External Alarm both will be recorded in the event list. In Motion Detection Record of Alarm Setup, the user can set up ON or OFF to record the motion event or not.
e. When Motion Detection was triggered, the color of camera title will be transformed into yellow. In addition, when External Alarm was triggered, "ALARM" text will be displayed on the screen.

Video Loss Alarm :

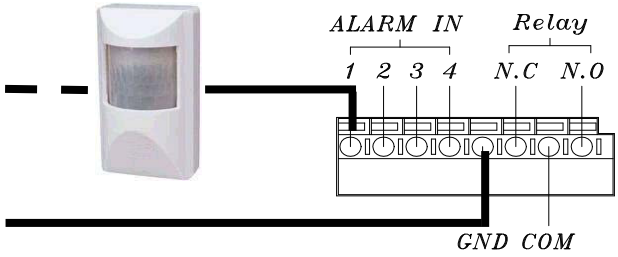
The default setting of Video Loss Alarm is enabled. The recorded time of Video Loss Alarm depends on the time of buzzer. The event will be added into the event list automatically and Video Loss text will be displayed on the corresponding channel.

Terminal Connectors :

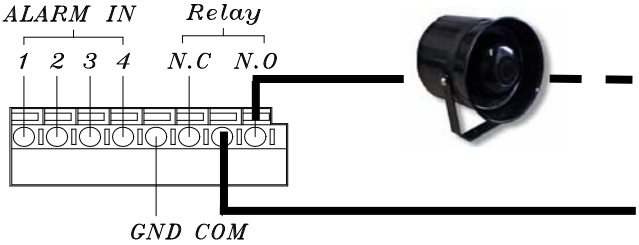


T+	RS-485 sends +
T -	RS-485 sends -
R-	RS-485 receives -
R+	RS-485 receives +
ALARM1-4	Camera alarm input.
GND	GND.
N.C	Relay N.C.
COM	Relay COM
N.O	Relay N.O.

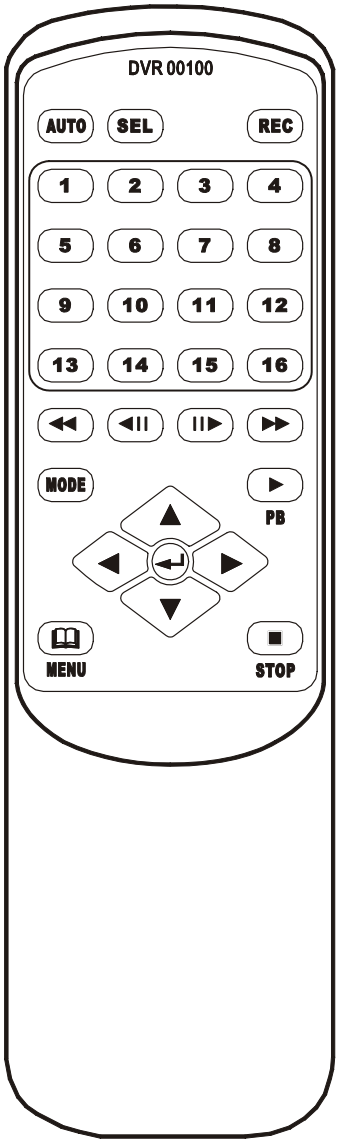
EXAMPLE 1：Connect Alarm In One with PIR (Passive Infrared).



EXAMPLE 2：Connect with Alarm Siren at Relay N.O.



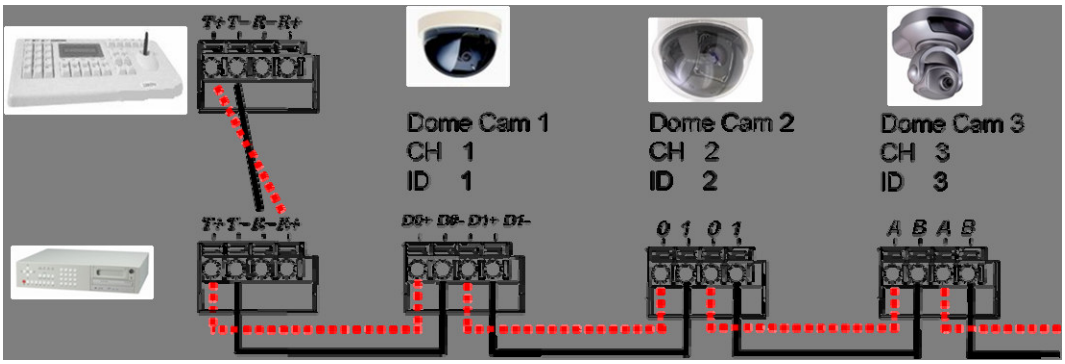
2.4 IR REMOTE CONTROL



ITEM	
AUTO	Reserve.
SEL	Reserve.
REC	Press REC to start recording and press twice to stop.
1-4	Select channel 1-4 with full screen.
◀◀	Fast backward.
◀II	Picture by picture backward.
II▶	Picture by picture forward.
▶▶	Fast Forward.
▶	Play video forward.
MODE	Switch channel format.
▲	Move upward or increase the number.
▶	Move rightward or increase the number.
▼	Move downward or decrease the number.
◀	Move leftward or decrease the number.
↵	Enter selected items.
MENU	Enter or Exit Main Menu.
STOP	Stop the playback.

2.5 RS-485 CONTROLLER

	PIN	DEFINE
RS-485	R+	RXDA
	R-	RXDB
	T+	TXDZ
	T-	TXDY



Data Format :

Data: 1 Byte / Parity: None / Start bit: 1 / Baud: 9600

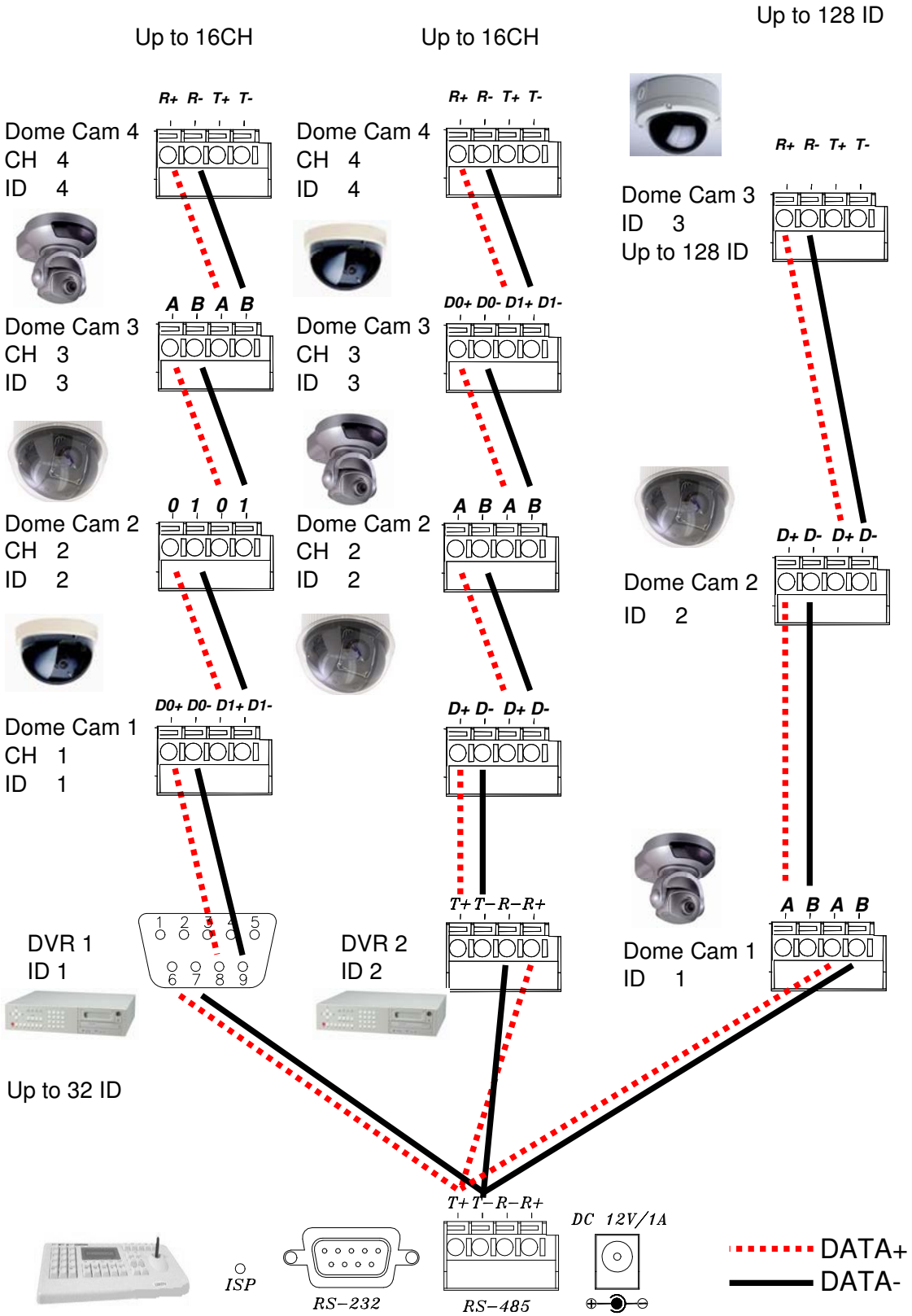
Totally 3 bytes as follows:

1. Byte=0x10 : Broadcasting DVR
   Byte=0x80+ID Number : Joystick Control DVR (ID number:1~32)
2. Byte=Reference to the table as follows. : Commands of each button.
3. Byte= the 1st Byte+ the 2nd Byte **:** Command for confirm checksum.

4-ch DVR	Command		4-ch DVR	Command
CH1	0x11		PLAY	0x52
CH2	0x12		UP	0x31
CH3	0x13		DOWN	0x32
CH4	0x14		MENU	0x20
QUAD	0x15		LEFT	0x33
RFAST	0x3A		RIGHT	0x34
STOP	0x51		SELECT	0x35
PAUSE	0x3D		ENTER	0x35
FFAST	0x3E			

2.6 PTZ (PAN, TILT AND ZOOM) CAMERA & JOYSTICK CONTROLLER

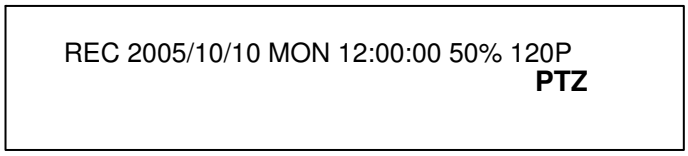
The following diagram is for DVR connect PTZ camera with joystick controllers. Make sure CAMERA ID, BAUD RATE (default at 9600 bps) and RS-485 +/-. If the user wants to connect DVR with joystick controllers, please make sure each DVR ID Number is unique.



PTZ SETUP & FRONT PLANE CONTROL

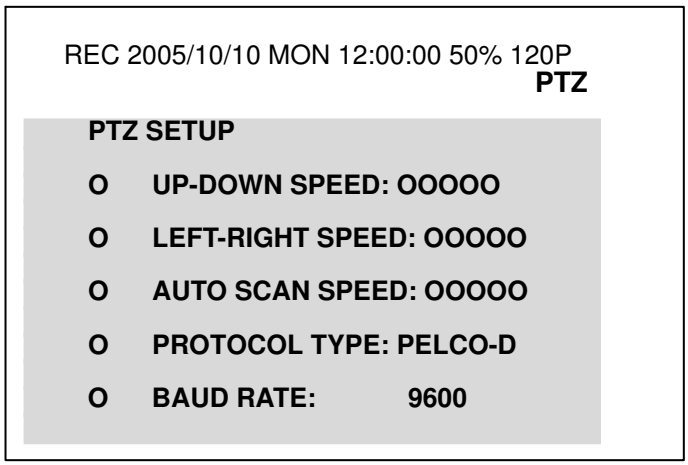
EXAMPLE:
A PTZ camera at channel 3 with PELCO-D, 9600bps.

1. Press the channel button **3** with full screen mode.
2. Press **►►** and “PTZ” will appear at right upper corner.



3. Press the **MENU** button to get into setup mode.

   Press ▲ or ▼ to switch item & by ◄ or ► to change SPEED/ PROTOCOL & BAUD RATE.



4. Press **MENU** twice to get back to PTZ control mode.
5. Control PTZ camera by pressing the following buttons.

NO.	ITEM	PTZ
18	▼	Down
19	◄	Left
20	▲	Up
21	►	Right
16	MENU	PTZ setup

NO.	ITEM	PTZ
15	▶ PLAY	Zoom in
13	▶❚❚ PAUSE	Home
12	■ Stop	Auto Scan
11	◀◀ Rew Search	Zoom out
14	▶▶ F.Fwd Search	Enter or exit PTZ mode

6. Press **SEL** to quit PTZ control mode.

2.7 VGA OUTPUT

VGA Output is optional. VGA output can connect with CRT or LCD monitor by D-SUB connector and the user can switch different resolutions and frequencies as follows.

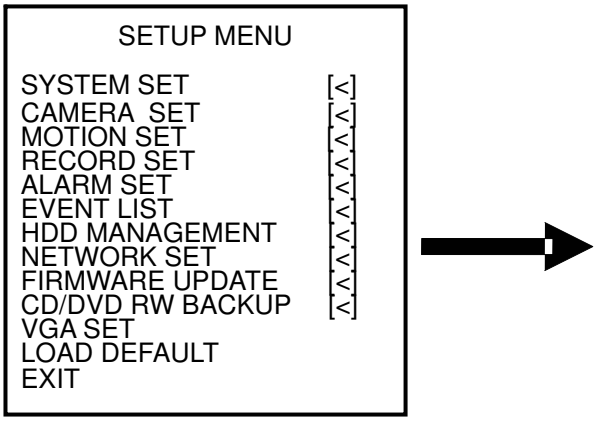
Resolution		Frequency
VGA	640 × 480	56Hz
SVGA	800 × 600	60Hz
XGA	1024 × 768	70Hz
SXGA	1280 × 1024	75Hz

2.8 NETWORK

When the DVR is turned on, it will detect the network connection automatically. If without network connection, the network function will be disabled. Thus, please make sure the network connection before turning on the DVR.

3 SYSTEM SETUP

3.1 MENU SETUP LIST



SETUP MENU

SYSTEM SET	[<]
CAMERA SET	[<]
MOTION SET	[<]
RECORD SET	[<]
ALARM SET	[<]
EVENT LIST	[<]
HDD MANAGEMENT	[<]
NETWORK SET	[<]
FIRMWARE UPDATE	[<]
CD/DVD RW BACKUP	[<]
VGA SET	
LOAD DEFAULT	
EXIT	

1. SYSTEM SETUP

DATA FORMAT	Y-M-D
DATE	2007/03/29
TIME	10:10:10
AUTO SWITCH DWELL	03
DATE AND TIME OSD	ON
SYSTEM TYPE	NTSC
KEYBOARD LOCK	OFF
ID NUMBER	01
LANGUAGE SELECT	CH/ENG
PASSWORD MODE	DISABLE
EXIT	

6. EVENT LIST MASTER PAGE :001

NO	YY/MM/DD	HH:MM:SS	CH	TYPE
01	05/10/10	00:01:00	--	POWER
02	05/10/10	00:02:00	--	RECORD
03	05/10/10	00:03:00	01	V.LOSE
04	05/10/10	00:04:00	02	ALARM
05	05/10/10	00:05:00	03	MOTION
06	05/10/10	00:06:00	--	POWER
07	05/10/10	00:07:00	--	RECORD
08	05/10/10	00:08:00	01	V.LOSE
09	05/10/10	00:09:00	02	ALARM

2. CAMERA SETUP

CAMERA	CAM01
DISPLAY	ON
BRIGHTNESS	50
CONTRAST	50
HUE	50
COLOR	50
CAMERA TITLE	01
EXIT	

7. HDD MANAGEMENT

OVERWRITE MODE	OFF
CAPACITY WARNING	20%
HDD FORMAT SETUP	[<]
EXIT	

DISK CAPACITY	LEFT	RATIO
MASTER	80GB	41%
SLAVE	NONE	NONE

3. MOTION SETUP

CAMERA	CAM01
MOTION DETECTION	ON
BUZZER	OFF
SENSITIVITY	080
AREA SETUP	[<]
EXIT	

8. NETWORK SETUP

TITLE	DVR
IP MODE	MAUNAL
IP ADDR	192.168.001.220
SUB NET	255.255.255.000
GATEWAY	192.168.001.254
DNS1	168.095.001.001
DNS2	168.095.192.001
HTTP PORT	00080
EXIT	

4. RECORD SETUP

SCHEDULE RECORD	OFF
NORMAL RECORD PPS	30P
ALARM RECORD PPS	30P
RECORD MODE	MUX
ALARM RECORD DWELL	10SEC
RECORD QUALITY	HIGH
AUDIO RECORD	ON
EXIT	

9. FIRMWARE UPDATE

FIRMWARE UPDATE START [<]

5. ALARM SETUP

BUZZER	
BUZZER ALARM DWELL	05SEC
VIDEO LOSS ALARM	ON
AUDIBLE ALARM	ON
EXT. ALARM MODE	N.C
ALARM DISPLAY MODE	OFF
MOTION EVENT	OFF
RELAY	
EXT. ALARM RELAY	ON
VIDEO LOSS RELAY	ON
MOTION RELAY	ON
EXIT	

10. CD/DVD RW BACKUP

START TIME SETUP	[<]
START:	2006/11/20 00:00:00
END :	2006/11/20 02:00:00
BACKUP SIZE:	0000MB
CLOSE DISK:	YES
ERASE DISK:	NO
BACKUP START:	[<]
EXIT	

3.2 LIVE VIEWING

A. Quick playback search

With live viewing mode, press ▶ PLAY to get into Quick Time Search and do playback or search by time or event.

B. PTZ control

a. Press the button of PTZ camera no. and the picture will be displayed with full screen mode.
b. Press ▶▶ to get into PTZ mode and PTZ text with yellow color will be displayed at upper right corner.
c. Press **MENU** to set up Protocol & Baud rate between DVR and PTZ cameras.
d. Press the direction key to control PTZ cameras.
e. Press ▶▶ to exit PTZ mode.

C. Channel selection

During split channel format, 1, 2, 3 & 4, the user can use the channel button to switch different channels with full screen mode.

3.3 SYSTEM SETUP

1. SYSTEM SETUP	
DATA FORMAT	Y-M-D
DATE	2007/03/29
TIME	10:10:10
AUTO SWITCH DWELL	03
DATE AND TIME OSD	ON
SYSTEM TYPE	NTSC
KEYBOARD LOCK	OFF
ID NUMBER	01
LANGUAGE SELECT	CH/ENG
PASSWORD MODE	DISABLE
EXIT	

Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. DATE FORMAT
Press ◄ or ► to switch Y-M-D, M-D-Y, or D-M-Y mode.

B. DATE
Press ▲ or ▼ to select items and ◄ or ► to change values.

C. TIME
Press ▲ or ▼ to select items and ◄ or ► to change values.

D. AUTO SWITCH DWELL
Press ◄ or ► to change values.
Press key first and then press ►► key , system would into full screen auto switch mode.

E. DATE AND TIME OSD
Press ▲ or ▼ to select items and ◄ or ► to change values.

F. SYSTEM TYPE
NTSC or PAL.

G. KEYBOARD LOCK
Press ◄ or ► to switch ON/ OFF.
OFF：UNLOCK.
ON： LOCK.
After KEYBOARD LOCK mode setup, please set up **PASSWORD**
Without password, un-authorized users could access into SYSTEM SETUP and make changes of settings easily.

H. ID NUMBER
Press ◄ or ► to change values.
When connecting with the joystick controller, ID NUMBER is required to make difference of each DVR.

I. LANGUAGE SELECT
Press ◄ or ► to change OSD language.

J. PASSWORD MODE
Press ▲ or ▼ to select items and ◄ or ► to change values.
Default password: 1111

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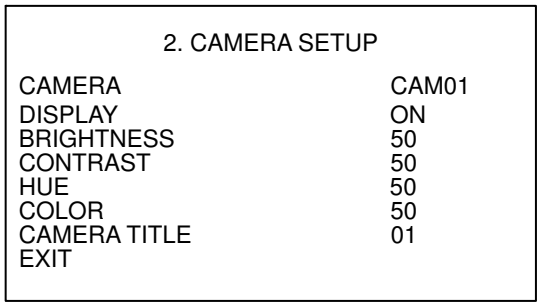
3.4 CAMER SETUP



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. CAMERA
Press ◄ or ► to switch channels.

B. DISPLAY
Press ◄ or ► to change value for the corresponding camera would be displayed on the screen or not.

C. BRIGHTNESS
Press ◄ or ► to change brightness level.

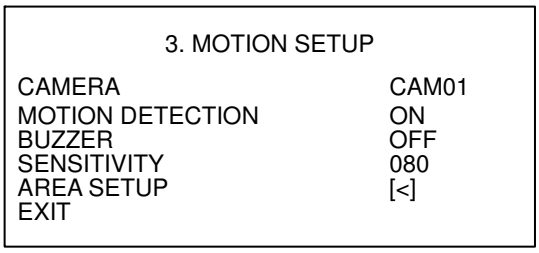
D. CONTRAST
Press ◄ or ► to change contrast level.

E. HUE
Press ◄ or ► to change HUE level.

F. COLOR
Press ◄ or ► to change color level.

G. CAMERA TITLE
Press ▲ or ▼ to select items and ◄ or ► to change character.

3.5 MOTION SETUP



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. CAMERA
Press ◄ or ► to switch channels.

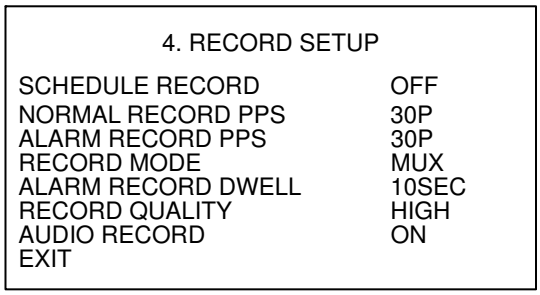
B. MOTION DETECTION
Press ◄ or ► to change value for motion detect function.

C. BUZZER
Press ◄ or ► to change value for buzzer while motion detected.

D. SENSITIVITY
Press ◄ or ► to change sensitivity value from 001 (minimum) to 100 (maximum).

E. AREA SETUP
Press **ENTER** to enter motion area setting.
1. Press direction keys to select which block is needed.
2. Press ► to add a line of motion detection area.
3. Press ►► to remove a line of motion detection area.
4. Press **MENU** to quit motion detection area setup.

3.6 RECORD SETUP



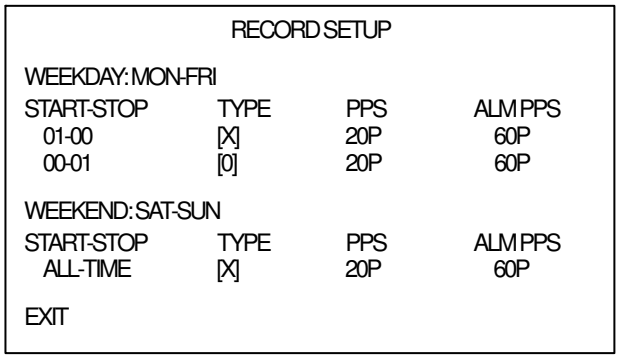
Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. SCHEDULE RECORD

Press ◄ or ► to change value for schedule record function.

A1. SCHEDULE RECORD SETUP

When SCHEUDLE RECORE is ON, press **ENTER** to enter SCHEDULE RECORD SETUP.



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A1.1
WEEKDAY & WEEKEND
SCHEDULE RECORD SETUP is divided into two parts, weekday and weekend. They can be set up with different FPS.

EXAMPLE 1:

If Weekday is from Monday to Friday, Weekend will be Saturday and Sunday.

EXAMPLE 2:

If Weekday is from Wednesday to Friday, Weekend will be from Saturday to Tuesday.

EXAMPLE 3:

If Weekday is from Monday to Wednesday, Weekend will be from Thursday to Sunday.

	MON	TUE	WEB	THU	FRI	SAT	SUN
EX1	WEEKDAY					WEEKEND	
EX2	WEEKEND		WEEKDAY			WEEKEND	
EX3	WEEKDAY			WEEKEND			

A1.2
START-STOP
24 Hours can be set with ALL TIME or SEPERATED HOUR modes.

ALL TIME

Apply the same recording mode and PPS whole day.

SEPERATED HOUR

Like WEEKDAY & WEEKEND setting, the user can set 24 hours with 2 parts and set 2 different PPS.

EXAMPLE 1 :

Business Hour: 8am - 16pm.
Off Time: 16pm - 8am.

EXAMPLE 2 :

Business Hour: 10am-20pm.
Off Time: 22pm - 10am.

	2	4	8	6	10	12	14	16	18	20	22	24
EX1	OFF				BUSINESS HOURS				OFF			
EX2	OFF						BUSINESS HOURS				OFF	

A1.3

TYPE

Press ◄ or ► to change recording mode.

A	Alarm recording only
O	Full time recording
X	No recording

A1.4

PPS

Press ◄ or ► to change normal recording picture per second.

A1.5

ALM PPS

Press ◄ or ► to change alarm recording picture per second.

NTSC 30 / 15 / 10 / 5 / 3 / 2 / 1 PPS
PAL 25 / 12 / 10 / 5 / 3 / 2 / 1 PPS

B. NORMAL RECORD PPS

Press ◄ or ► to switch PPS in normal recording.

C. ALARM RECORD PPS

Press ◄ or ► to switch PPS in alarm recording.

D. RECORD MODE

Press ◄ or ► to switch MUX and QUAD record mode.
With MUX, the resolution is 720 x 240 (NTSC)/ 720 x 288 (PAL).
With QUAD, the resolution is 360 x 240 (NTSC)/ 360 x 288 (PAL).

E. ALARM RECORD DWELL

Press ◄ or ► to set dwell time of alarm recording.

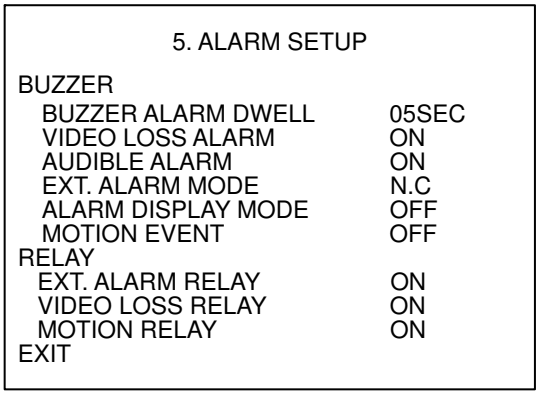
F. RECORD QUALITY

Press ◄ or ► to switch LOW/ MEDIUM/ HIGH/ BEST.

G. AUDIO RECORD

Press ◄ or ► to switch AUDIO RECORD ON or OFF.
NOTE: In Duplex mode, the audio is disabled on playback.

3.7 ALARM SETUP



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

BUZZER

A. BUZZER/ ALARM DWELL

Press ◄ or ► to set dwell time of BUZZER/ ALARM.

B. VIDEO LOSS ALARM

Press ◄ or ► to switch VIDEO LOSS ALARM ON or OFF.

C. AUDIBLE ALARM

Press ◄ or ► to switch AUDIBLE ALARM ON or OFF.

D. EXT. ALARM MODE

Press ◄ or ► to switch EXT. ALARM device ON or OFF.
N.C: Normal Close.
N.O: Normal Open.

E. ALARM DISPLAY MODE

Press ◄ or ► to change value for ALARM DISPLAY MODE with full screen.

F. MOTION EVENT

Press ◄ or ► to change value to record MOTION EVENT or not when the motion is detected.

RELAY

G. EXT. ALARM RELAY

Press ◄ or ► to change value to trigger EXT. ALARM RELAY or not.

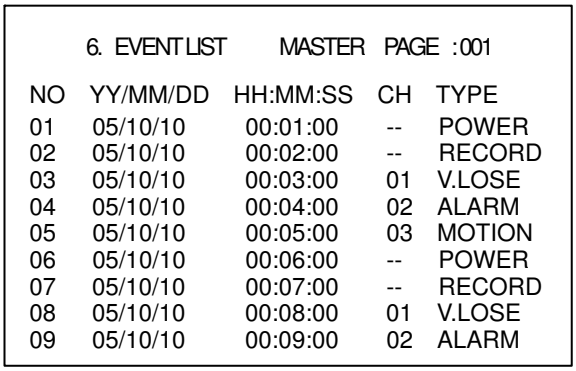
H. VIDEO LOSS RELAY

Press ◄ or ► to change value to trigger VIDEO LOSS RELAY or not.

I. MOTION RELAY

Press ◄ or ► to change value to trigger MOTION RELAY or not.

3.8 EVENT LIST



6. EVENT LIST MASTER PAGE :001

NO	YY/MM/DD	HH:MM:SS	CH	TYPE
01	05/10/10	00:01:00	--	POWER
02	05/10/10	00:02:00	--	RECORD
03	05/10/10	00:03:00	01	V.LOSE
04	05/10/10	00:04:00	02	ALARM
05	05/10/10	00:05:00	03	MOTION
06	05/10/10	00:06:00	--	POWER
07	05/10/10	00:07:00	--	RECORD
08	05/10/10	00:08:00	01	V.LOSE
09	05/10/10	00:09:00	02	ALARM

Press ▲ or ▼ to select items.
Press ◄ or ► to change pages.

A. NO

Press ▲ or ▼ to select items and ◄ or ► to change pages.
Each HDD can record 3000 events, so two HDDs can record 6000 events.
On the screen, MASTER or SLAVE of the event list is displayed.

B. DD/MM/YY

Display the date of the event. Date Format can be set in SYSTEM SETUP.

C. HH:MM:SS

Display the time of the event.

D. CH

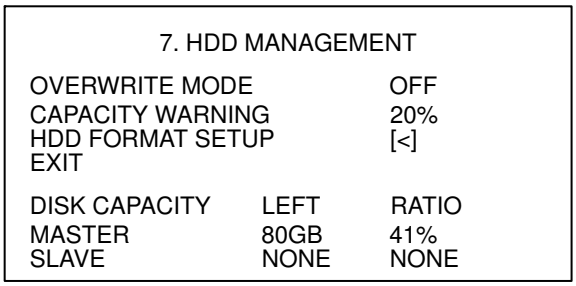
Display the channel of the event recorded.

E. TYPE

Display the type of the event as follows.

POWER	If the DVR got power loss, it will record the date and time of rebooting.
RECORD	If **REC.** button has been pressed, it will record the date and time in the event list.
V.LOSE	When a camera signal is lost, it will record the date, time, and corresponding channel.
ALARM	When ALARM is triggered, it will record the date, time, and corresponding channel.
MOTION	When MOTION is detected, it will record the date, time, and corresponding channel.

3.9 HDD MANAGEMENT



Press ▲ or ▼ to select items.
Press ◄ or ► to change pages.

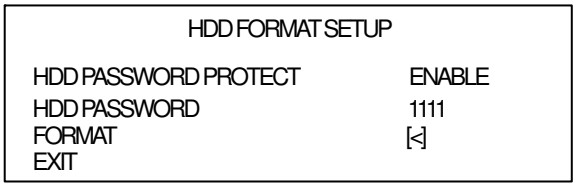
A. OVERWRITE MODE

Press ◄ or ► to change value OVERWRITE MODE ON or OFF.

B. CAPACITY WARNING

Press ◄ or ► to change value to 20/ 15/ 10 or 5% with non-overwrite mode. When LEFT RATIO is below the setting, it will enable AUDIBLE ALARM (If AUDIBLE ALARM of BUZZER of ALARM SETUP is ON).

C. HDD FORMAT SETUP



C-1. HDD PASSWORD PROTECT

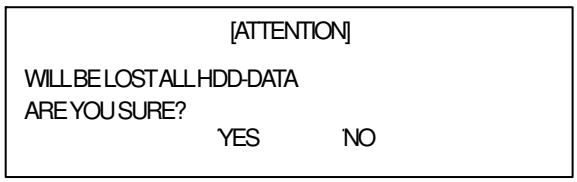
Press ◄ or ► to change value for hard disk format password protection.。

C-2. HDD PASSWORD

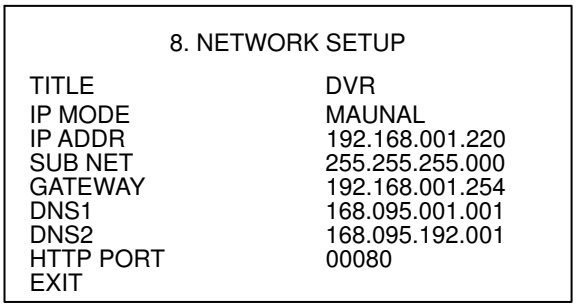
Press ▲ or ▼ to select items and ◄ or ► to change values.
Default password : 1111

C-3. FORMAT

Press **ENTER** to get into FORMAT setup.
Press ◄ or ► to decide YES or NO and press **ENTER** to execute.



3.10 NETWORK SETUP



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. TITLE
Press ▲ or ▼ to select items and ◄ or ► to change characters. Here DVR TITLE is shown in IP Installer.

B. IP MODE
Press ▲ or ▼ to select items and ◄ or ► to change to STATIC IP or DHCP.

C. IP ADDR
Press ▲ or ▼ to select items and ◄ or ► to change IP ADDRESS.

D. SUB NET
Press ▲ or ▼ to select items and ◄ or ► to change SUBNET MASK.

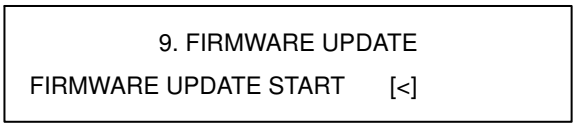
E. GATEWAY
Press ▲ or ▼ to select items and ◄ or ► to change Default GATEWAY.

F. DNS1
Press ▲ or ▼ to select items and ◄ or ► to change DNS.

G. DNS2
Press ▲ or ▼ to select items and ◄ or ► to change OTHER DNS.

H. HTTP PORT
Press ▲ or ▼ to select items and ◄ or ► to change WEB PAGE PORT.

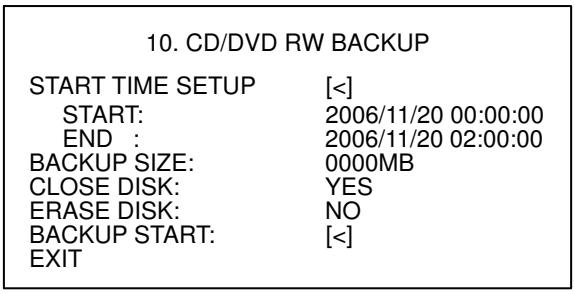
3.11 FIRMWARE UPDATE



Press **ENTER** to start firmware update. After updated, the DVR will reboot automatically. At this moment, please do not turn off the DVR manually.

NOTE: Please format USB flash memory with FAT32.

3.12 CD/DVD RW BACKUP



Press ▲ or ▼ to select items.
Press ◄ or ► to change values.

A. START TIME SETUP

Press **ENTER** into START TIME SETUP menu. And, press ▲ or ▼ to select items and ◄ or ► to change numbers.
Press **ENTER** again to confirm START TIME. Then, system will search START TIME automatically and back to CD/DVD RW BACKUP.

B. BACKUP SIZE

Press ◄ or ► to change backup size and END TIME will be changed automatically.

C. CLOSE DISK

Press ◄ or ► to make CD / DVD write in data again or not.

YES: CD / DVD won't write in data anymore.
System will block the inner ring on the disk and no more data can't be written in; otherwise, using CDRW/ DVDRW & Erase Disk Function.

NO: Keep CD / DVD in writable status until CD is full.

D. ERASE DISK

Press ◄ or ► to delete data on CD RW / DVD RW or not.

YES: Erase all data on CD RW / DVD RW.
System will remove all data on CD RW / DVD RW rather than CD R/ DVD R.
NO: Keep all data on CD RW / DVD RW.

E. BACKUP START

Press **ENTER** to start backup.

Please make sure there is CD / DVD in CDRW / DVDRW burner and press **ENTER** to start backup.

After backup finished, CDRW / DVDRW burner will eject CD / DVD automatically.

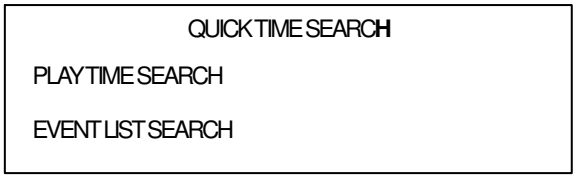
F. BACKUP FILE NAME

Each backup file will be named as START TIME.
EXAMPLE: 11201817.IN is Nov. 20th 18:17

3.13 LOAD DEFAULT

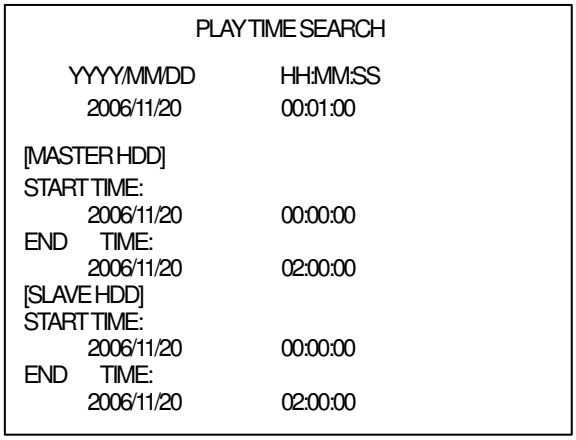
Press **ENTER** to load the system default setting, and **"LOAD DEFAULT!"** will be displayed on the screen until recover finished.

4 DVR PLAYBACK & USB BACKUP



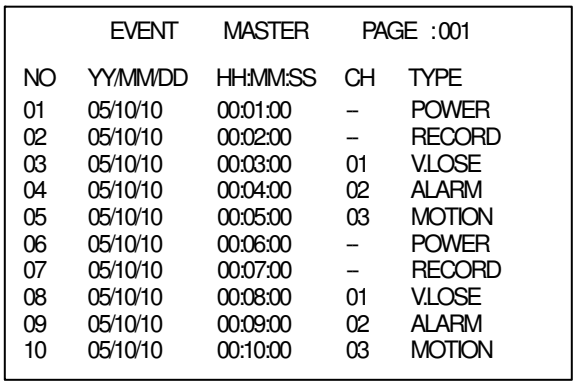
In live viewing mode, press ► or **PLAY** into QUICK TIME SEARCH and press ▲ or ▼ to enter search mode.

4.1 PLAY TIME SEARCH



Press ▲ or ▼ to change numbers and ◄ or ► to select items.
Press **ENTER** to start playback or press **LIVE** back to live viewing.

4.2 EVENT LIST SEARCH



Press ▲ or ▼ to select items and press **ENTER** to start playback or press **LIVE** back to live viewing.

4.3 USB BACKUP

Due to each USB device with different USB driver ICs, their compatibilities differ, too. This system is compatible with most of USB flash memory. If there is compatible issue, please refer to **APPENDIX B**. In addition, please format USB flash memory with FAT32.

BEFORE BACKUP

A. In live viewing mode, insert USB device into a USB port of the DVR.
B. Get into playback mode by PLAY TIME SEARCH or EVENT LIST SEARCH and play back videos that are going to be as backup.

VIDEO BACKUP

In multiplexer or full screen mode, press **COPY** to start backup and press **COPY** to end backup. The system will backup automatically.

PICTURE BACKUP

In multiplexer or full screen mode, press ïı► and press **COPY**. The system will start backup picture by picture.

BACKUP FILE NAME

Each backup file will be named as START TIME.
EXAMPLE: 11201817.IN is Nov. 6th 18:17

AFTER BACKUP

After backup, the system will copy “player.exe” automatically on USB device for the user to play back backup file.

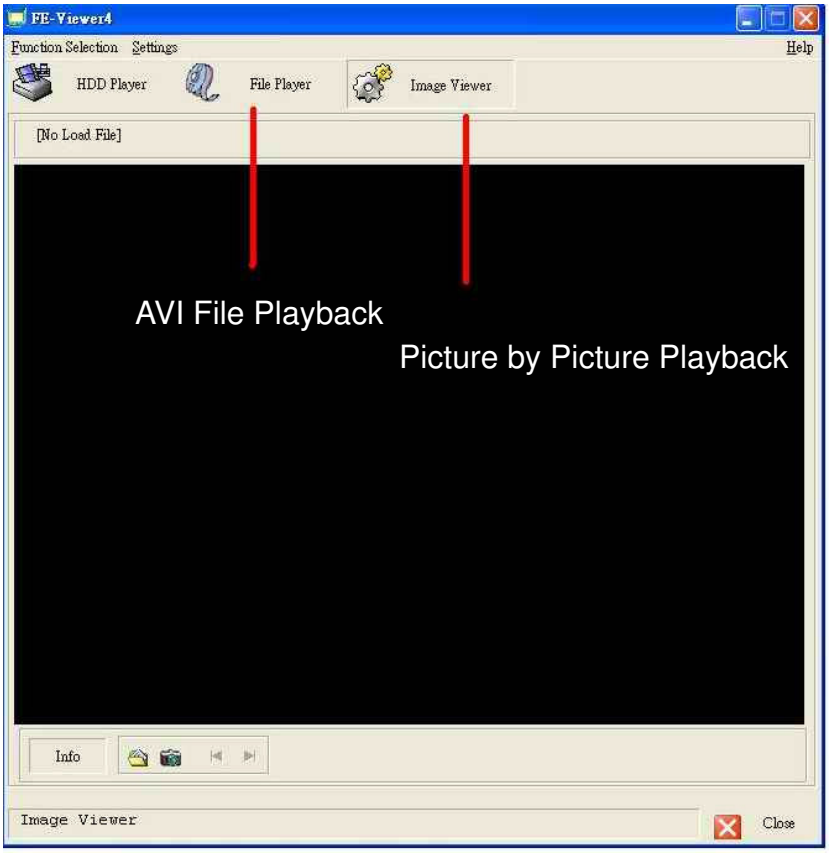
5 DVR PLAYBACK & USB BACKUP PLAYBACK

SYSTEM REQUIREMENT :

CPU: Intel Pentium III 1G or above.
MEMORY: 512 MB or above.
VGA: 32MB/64MB or above.
OS: Microsoft Windows XP SP2 or above.
VGA RESOLUTION: 1024*768 or above.

5.1 MAIN SCREEN SETTING

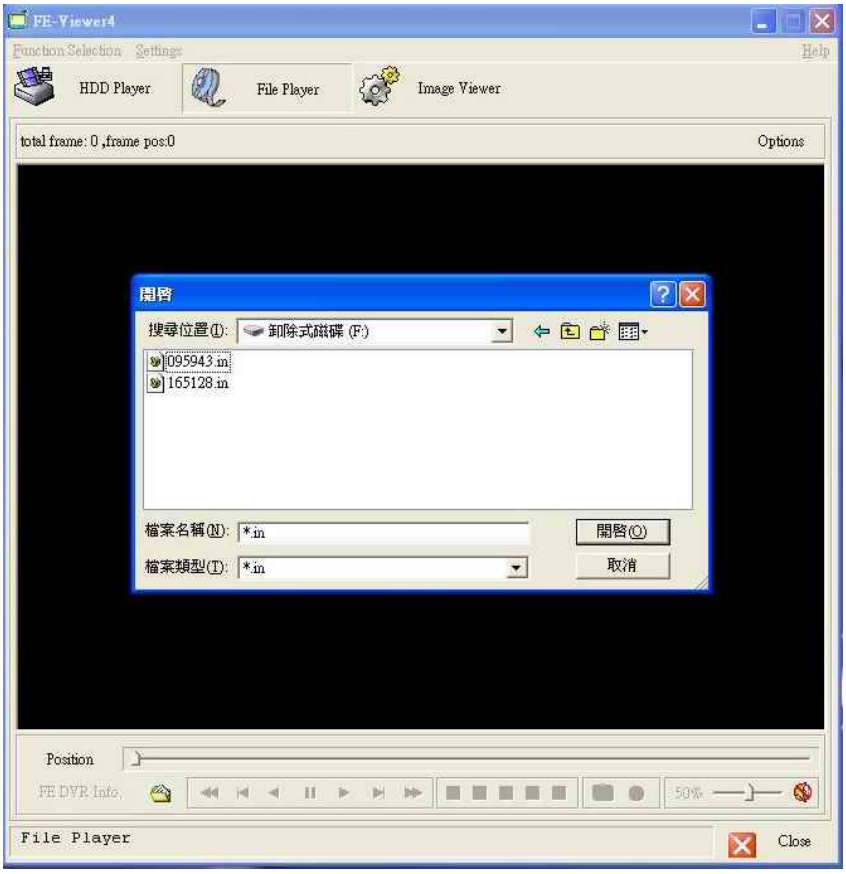
A. MAIN SCREEN



B. Open a disk drive that is with USB Backup files (e.g. F:) or other folder that is with Backup files.

Each backup file will be named as START TIME.
EXAMPLE: 11201817.IN is Nov. 6th 18:17

C. Click on File Player (AVI File Playback) or Image Viewer (Picture by Picture Playback) and the following message will popup. And then, open the file for playback.



5.2 PLAYER USER INTERFACE

6 NETWORK VIEWING & PLAYBACK

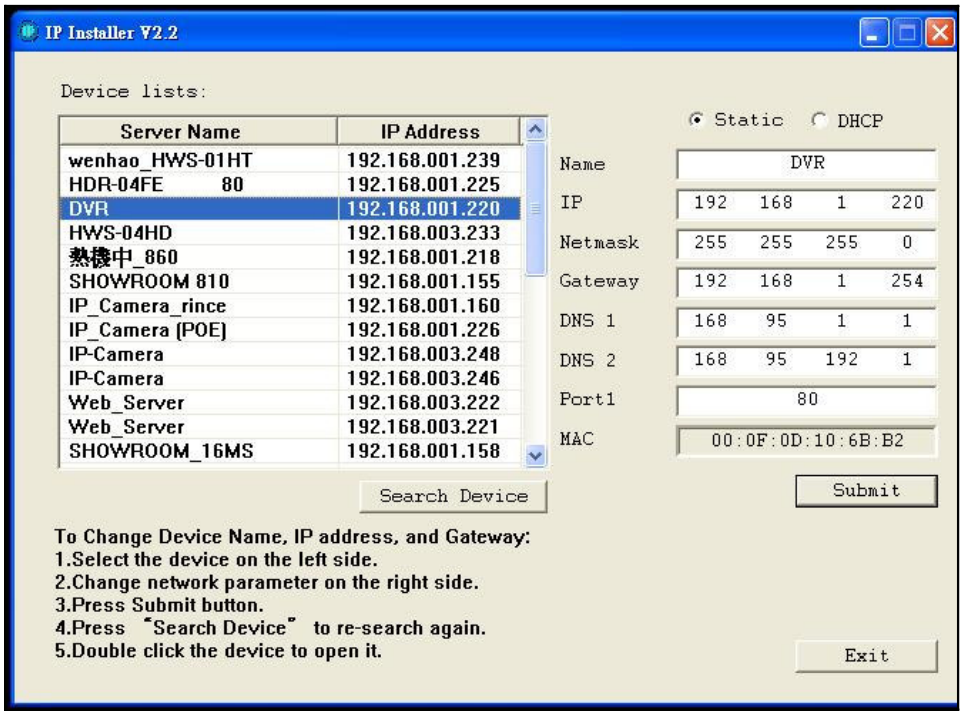
CPU: Intel Pentium III 1G or above.
Memory: 512 MB or above.
VGA: 32MB/64MB or above.
OS: Microsoft Windows XP SP2 or above.
VGA RESOLUTION: 1024*768 or above.

6.1 IP ADDRESS SETUP ON PC SITE

Install cameras inside in LAN or use cross-over interlaced network cable to connect with PC. This is for IPInstallerEng.exe to set up IP address of cameras. If OS is Windows XP SP2 or above, the following Windows Security Alert will popup. Then, please click on **Unblock**.

Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.0 IPCam Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

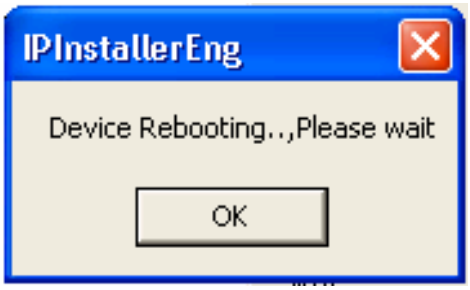
Then, IPInstallerEng.exe will popup:
DVR default IP address is 192.168.1.220



NOTE: Please input correct network parameters without blank spaces.

On Device Lists, it lists all servers. Click on one server and then its IP setting will show on the right side. After editing the parameters and clicking on Submit, the following dialogue box will popup. And, it will reboot the device with new

parameters.



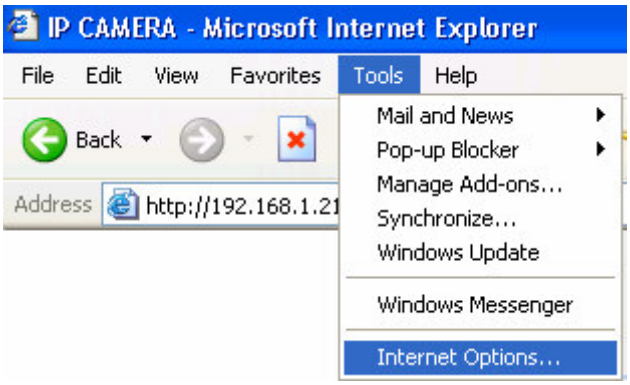
6.2 OPTIONAL MICROSOFT INTERNET EXPLORER SETUP:

OPTION 1: DISABLE ACTIVEX WARNING

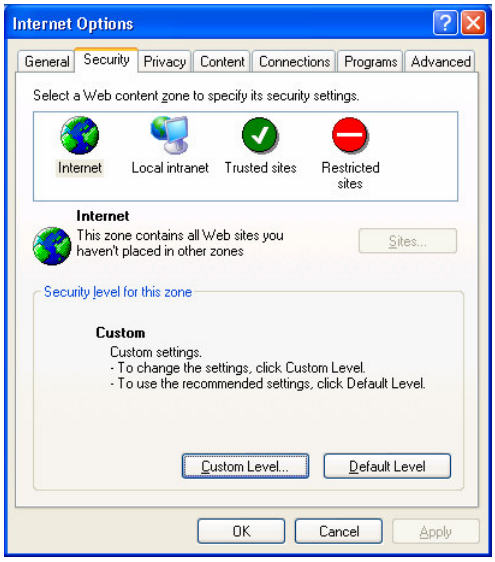
A. IE ➪Tools ➪Internet Options ➪Security ➪Custom Level ➪Security Settings ➪Download unsigned ActiveX controls ➪Enable or Prompt (recommend).

B. IE ➪Tools ➪Internet Options ➪Security ➪Custom Level ➪Security Settings ➪Initialize and script ActiveX controls not marked as safe ➪ Enable or Prompt (recommend).

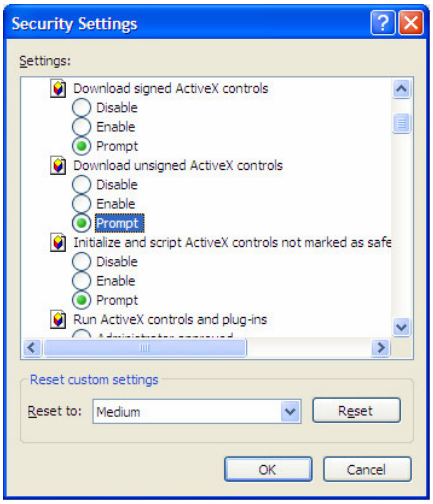
1



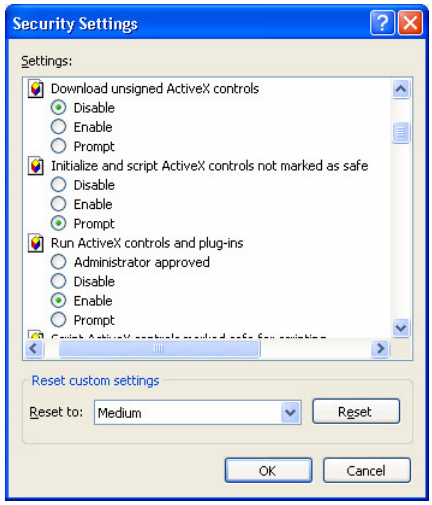
2



3



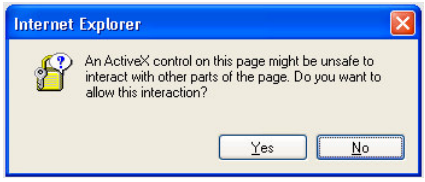
4



5

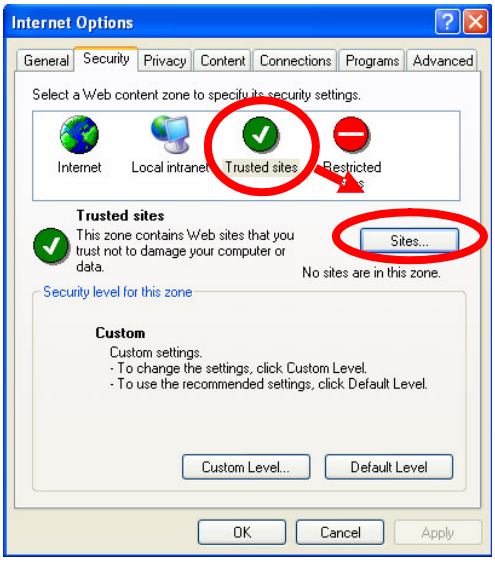
Above three options are all based on select as the prompt.

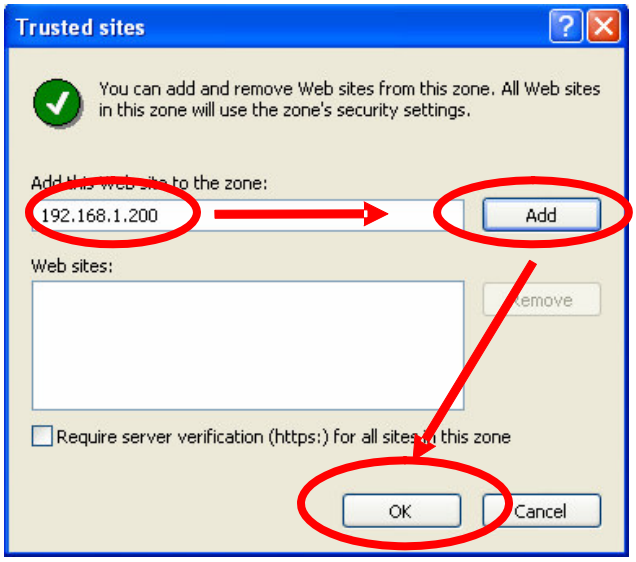
As indicated in the dialogue box. Please select "YES."


Internet Explorer
An ActiveX control on this page might be unsafe to interact with other parts of the page. Do you want to allow this interaction?
Yes
No

OPTION 2: ADD TO TRUSTED SITES

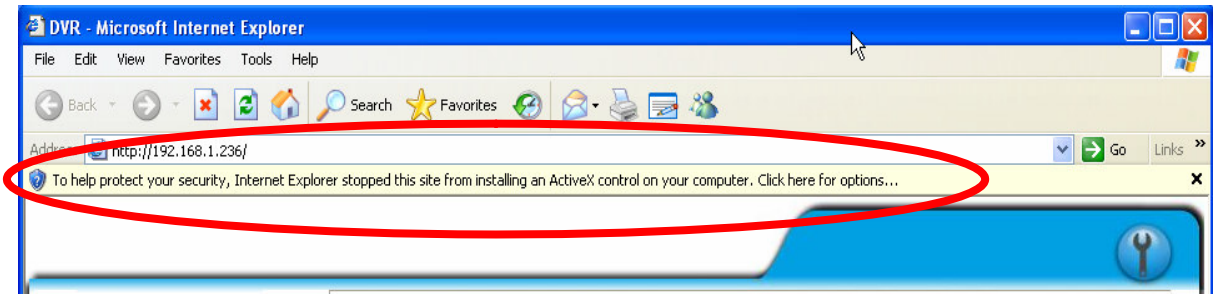
IE ☞Tools ☞Internet Options ☞Security ☞Trusted sites ☞Sites



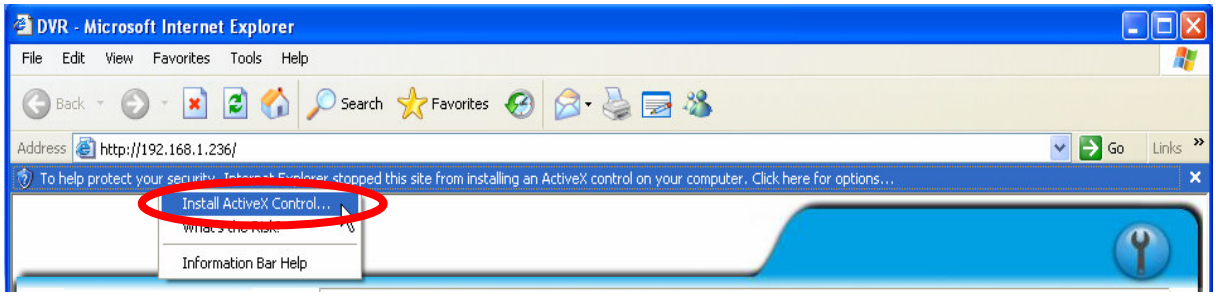

Trusted sites
You can add and remove Web sites from this zone. All Web sites in this zone will use the zone's security settings.
Add this Web site to the zone:
192.168.1.200
Add
Web sites:
Remove
Require server verification (https:) for all sites in this zone
OK
Cancel

6.3 LOGIN

A. INSTALL ACTIVEX

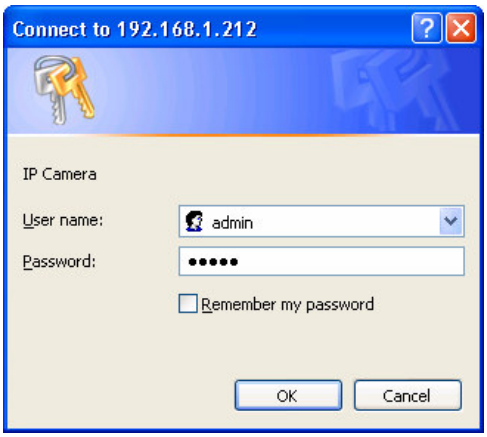

DVR - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.1.236/
Go Links
To help protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer. Click here for options...

B. START INSTALL ACTIVEX


DVR - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.1.236/
Go Links
To help protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer. Click here for options...
Install ActiveX Control...
Information Bar Help

C. ACCOUNT & PASSWORD LOGIN

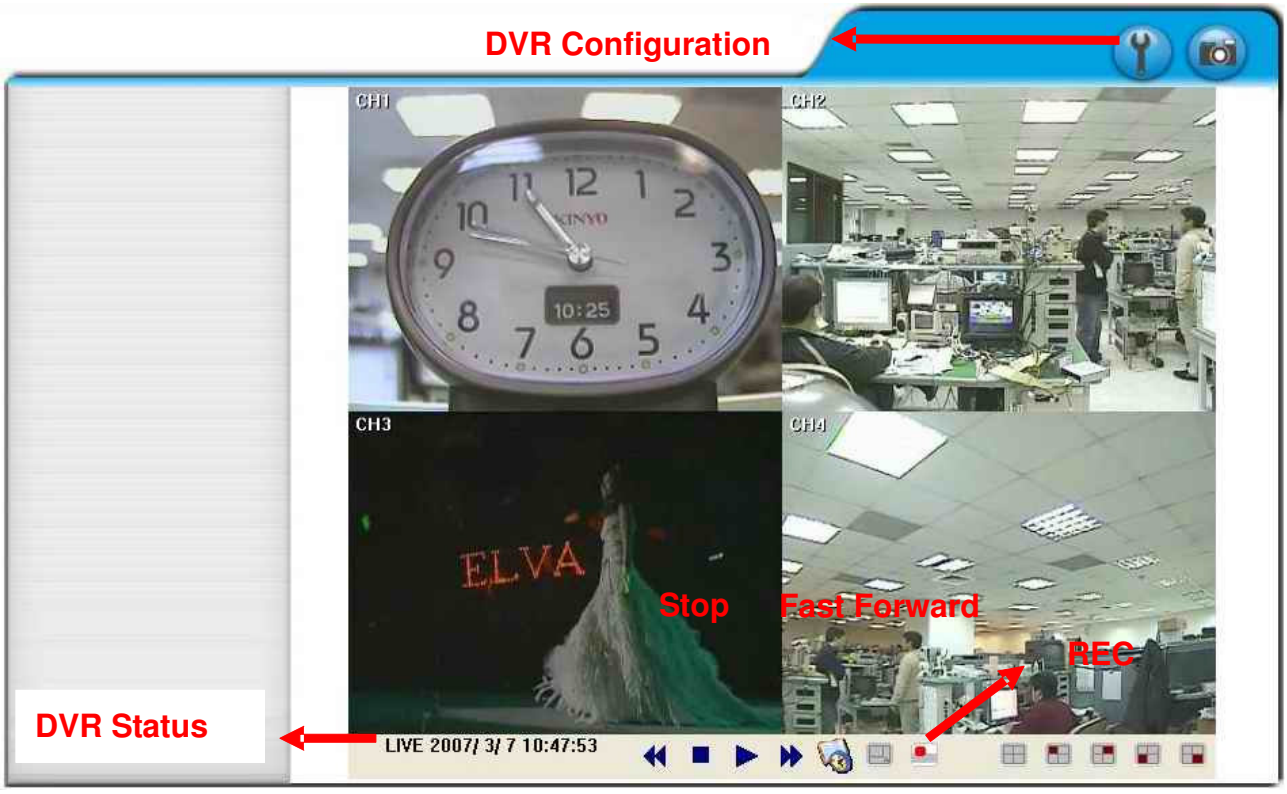
After IP setup and connect to network or LAN, type IP address on IE Browser directly. The following User name & Password Login window will popup.



Default user name: admin

Default password: admin

6.4 LIVE VIEWING



System Time

Playback

Screen Format

Fast Backward

Time Search

PLAY

A. DVR CONFIGURATION

Get into DVR network menu.

B. SYSTEM TIME

Live viewing mode: The current live viewing time.

C. SCREEN FORMAT

Switch screen format and click twice to switch different channels with full screen.

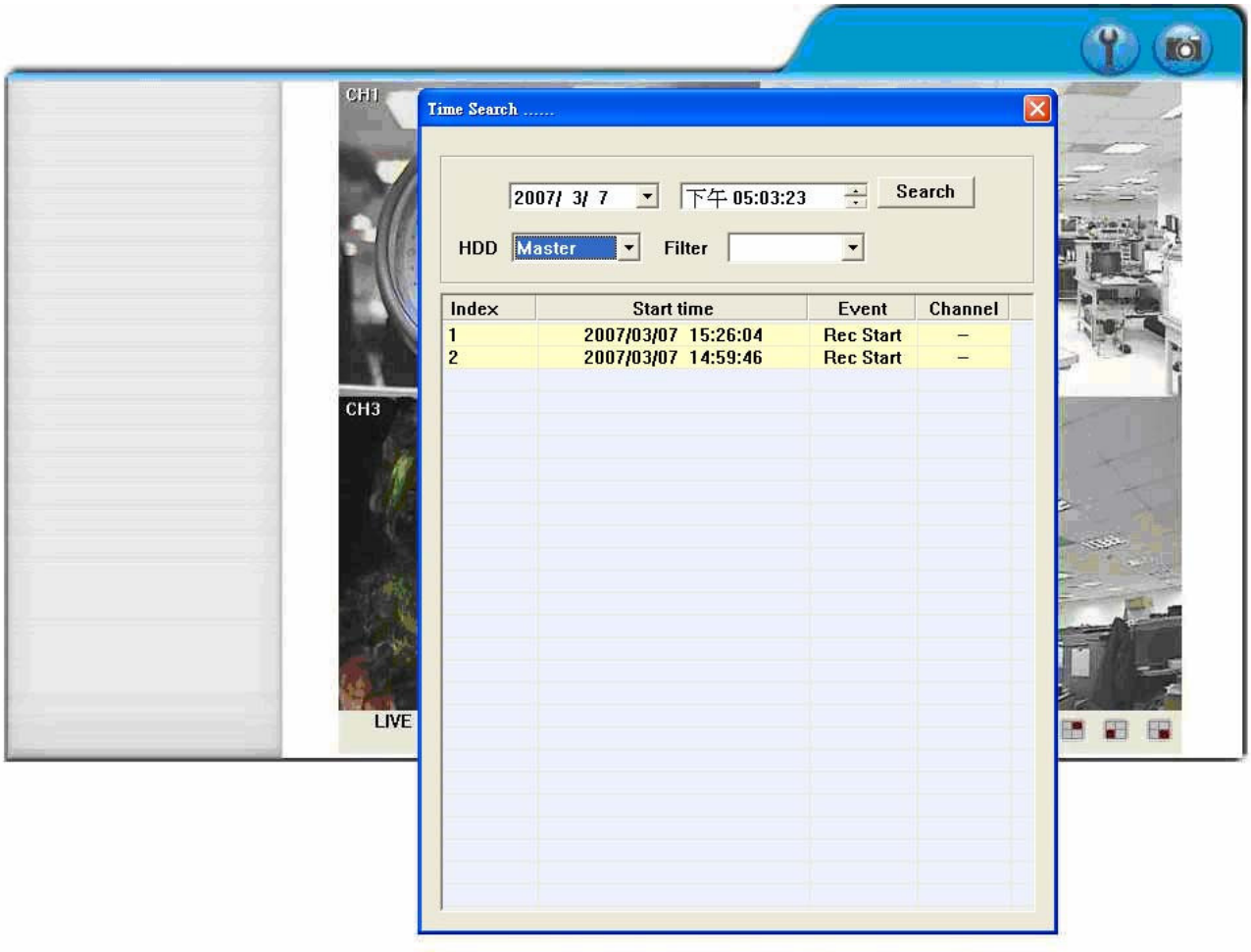
D. **Snapshot.**

E. **Full Screen.** Clickagain to return.

F. **REC.** Videos are saved as AVI file.

G. **Playback Time Search.**

Click , the following Time Search….. window will popup.

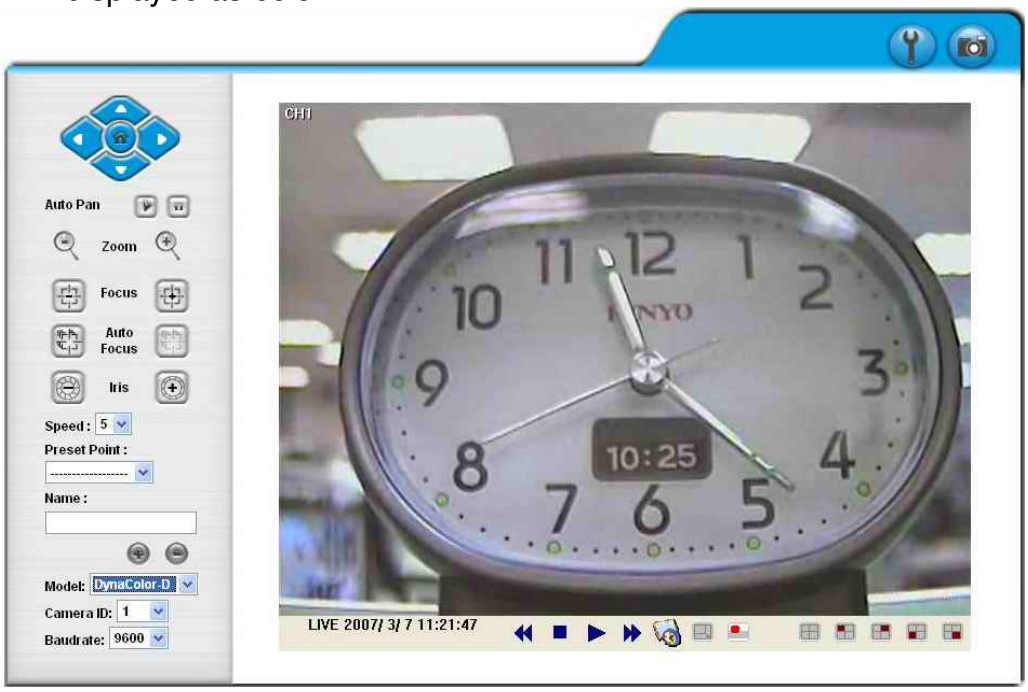


- **EVENT LIST**
  Select a HDD to list EVENT LIST on Master or Slave HDD. Click the left button of the mouse twice to play back the selected event.

- **TIME SEARCH**
  Input Date and Time and click Search to play back.

H. PTZ CONTROL PANEL

If a certain channel is connected with a PTZ camera, PTZ control panel will be displayed as below.



6.5 CONFIGURE

A. System - System Information

a. SYSTEM INFORMATION

SERVER NAME: This name will show on the IP Installer.

LANUGAGE : There are English, Traditional Chinese, and Simplified Chinese. After selecting one language, the following dialogue box will popup and ask the user to confirm.

b. TIME SETTING

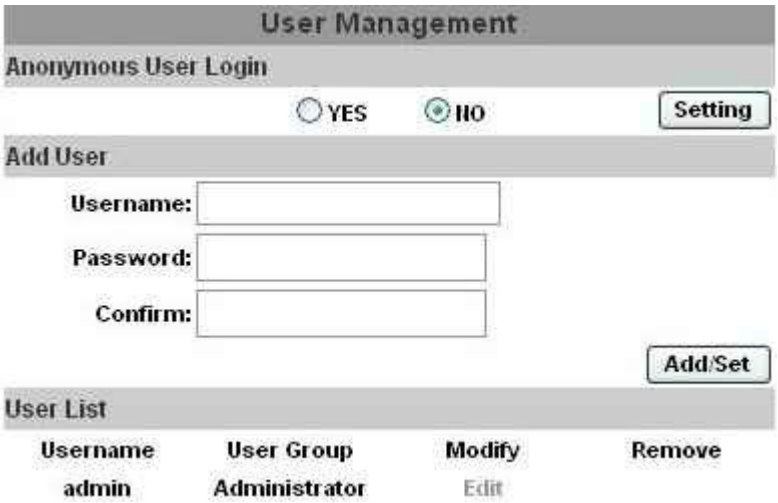
⌘NTP SERVER

Synchronize with Network Time Protocol server from port 123, after pressing Apply or reboot DVR.

⌘INPUT DATE & TIME

Choose synchronize with PC's time or input Date and Time by the user.

B. SYSTEM – USER MANAGEMENT



User Management provides 3 levels of limits of authority: Administrator (the highest), User, and Anonymous.

Default administrator account: Username: admin Password: admin

a. ANONYMOUS USER LOGIN:

YES: Accept anonymous user login without password as guest login.

NO: Anonymous login unacceptable.

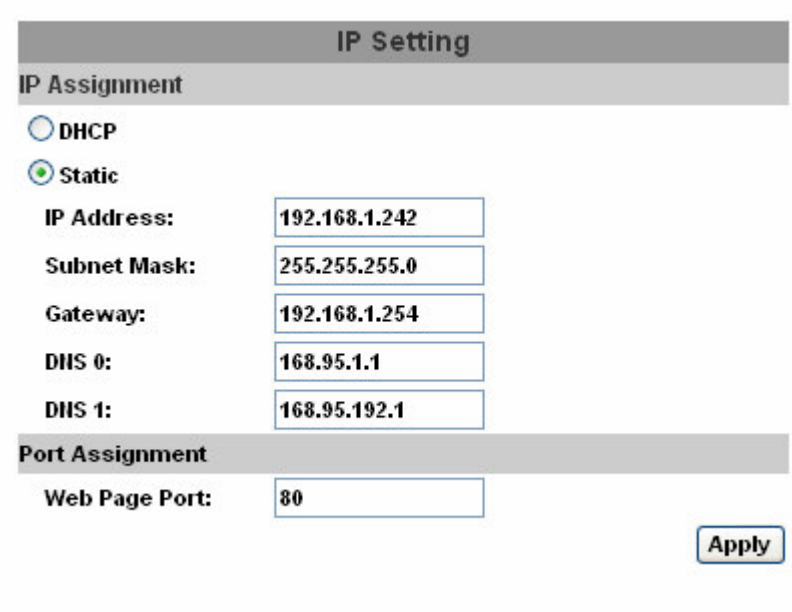
b. USER MANAGEMENT:

Add: Input Username and Password and then click on **Add/Set** to save.

Modify: Click on selected User name on User List and the following window will popup. After inputting Password and Confirm Password, click on **OK**.

Remove: Click on selected User name on the user list and click on **Remove**.

C. NETWORK – IP SETTING



a. IP ASSIGNMENT

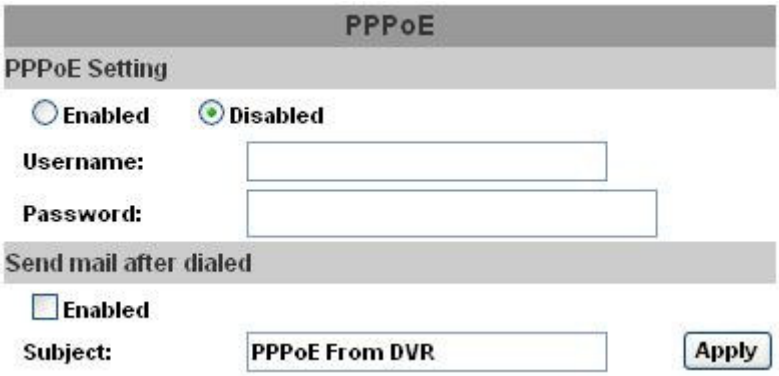
DHCP: In Dynamic Host Configuration Protocol (DHCP) mode, DHCP server will get setting done automatically.

STATIC IP: Please input IP address, Subnet Mask, and Gateway based on network environment.

b. PORT ASSIGNEMENT

With IP Share (Router), the following Ports needed to be adjusted in case of conflict.

D. NETWORK – PPPoE



a. PPPoE SETTING

Click on Enabled to enable ADSL dial function.
Username: Username for ADSL account.
Password: Password for ADSL account.

After dialed successfully, new IP address will appear.

b. SEND MAIL AFTER DIALED

Click on Enabled to enable SEND MAIL AFTER DIALED function.

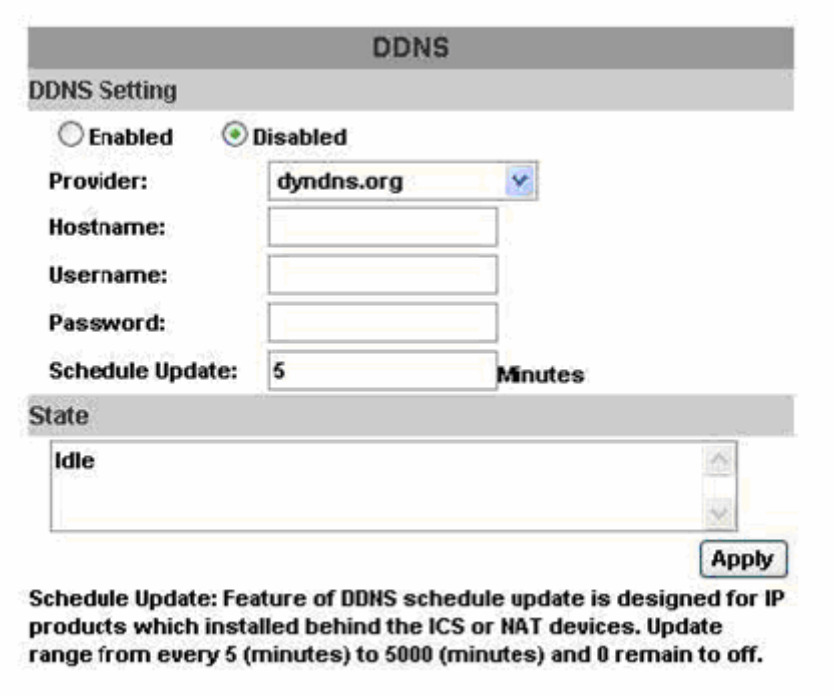
c. SUBJECT

Mail subject.

E. NETWORK / DDNS SETTING

Click on Enabled to enable DDNS function.

a. DYNDNS.ORG

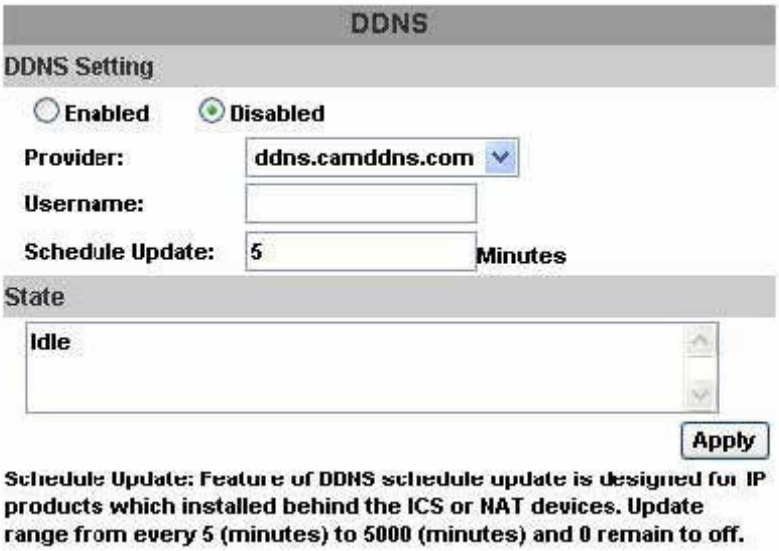


DDNS SETTING - DYNDNS.ORG
PROVIDER: Select dyndns.org
HOSTNAME: The registered hostname in DYNDNS.ORG.
USERNAME: The registered username in DYNDNS.ORG.
PASSWORD: The registered password in DYNDNS.ORG.
SCHEDULE UPDATE: A period of time to update IP address.

STATE

1. Updating: Information update.
2. Idle: Stop service.
3. DDNS registered successfully, now log by http://<username>.ddns.camddns.com: Registered successfully.
4. Updating Failed, the name is already registered.
5. Updating Failed, please check your internet connection.

b. DDNS.CAMNNDS.COM

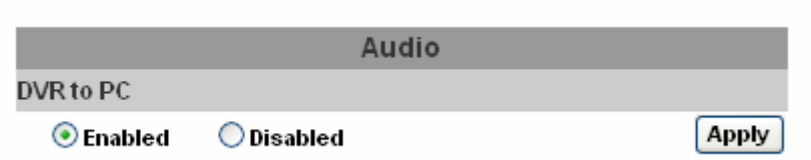


DDNS SETTING – DDNS.CAMDDNS.COM
PROVIDER: Select ddns.camddns.com
USERNAME: The registered username in DDNS.CAMDDNS.COM.
SCHEDULE UPDATE: A period of time to update IP address.

STATE

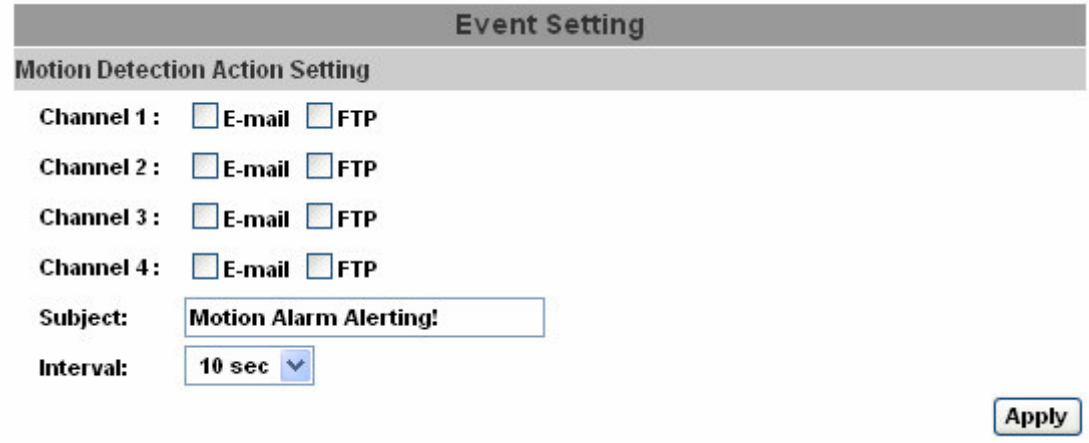
1. Updating: Information update.
2. Idle: Stop service.
3. DDNS registered successfully, now log by http://<username>.ddns.camddns.com: Registered successfully.
4. Updating Failed, the name is already registered.
5. Updating Failed, please check your internet connection.

F. A/V SETTING/ AUDIO



Enabled: Enable the audio transmission from DVR to PC.
Disabled: Disable the audio transmission from DVR to PC.

G. EVENT SETTING/ EVENT SETTING



a. MOTION DECTECTION ACTION SETTING

Motion detection action can be set up on each channel individually. After the motion is detected, it will trigger emails or upload files to FTP.

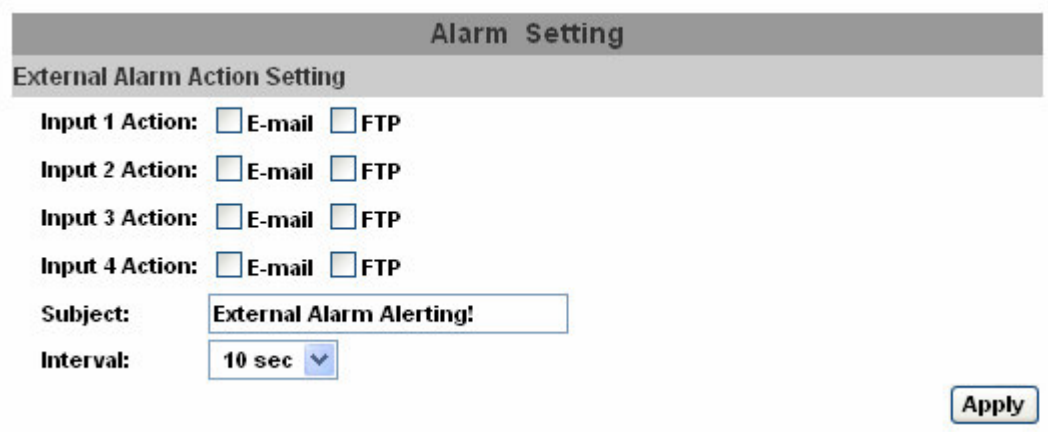
b. SUBJECT

Mail Subject.

c. INTERVAL

The interval time between two emails in case the mail is sent out too frequently.

H. EVENT SETTING/ ALARM SETTING



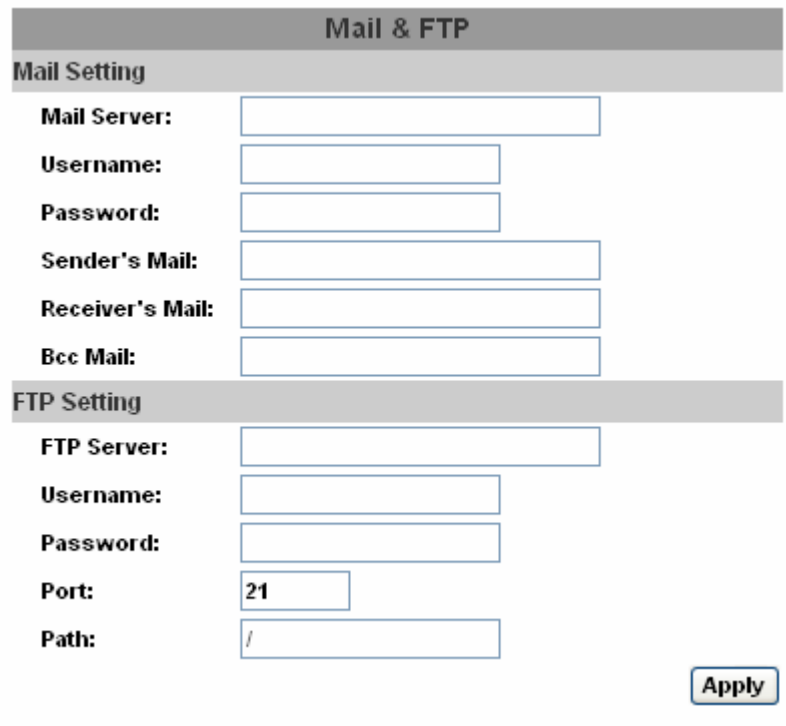
a. EXTERNAL ALARM ACTION SETTING

External alarm action can be set up on each channel individually. After the external alarm action is detected, it will trigger emails or upload files to FTP.

b. SUBJECT
Mail Subject.

c. INTERVAL
The interval time between two emails in case the mail is sent out too frequently.

I. EVENT SETTING/ MAIL & FTP



a. MAIL & FTP SETTING
Mail and FTP settings are for motion detection action and external alarm action. When both actions are detected, it will trigger emails or upload files to FTP.

APPENDIX A: RECORDING TIME LAPSE

NTSC

80GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	93 hr	186 hr	279 hr	558 hr	930 hr	1395 hr	2790 hr
	High	125 hr	250 hr	375 hr	750 hr	1250 hr	1875 hr	3750 hr
	Middle	186 hr	372 hr	558 hr	1116 hr	1860 hr	2790 hr	5580 hr
	Low	373 hr	746 hr	1119 hr	2238 hr	3730 hr	5595 hr	11190 hr
120GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	140 hr	279 hr	419 hr	837 hr	1395 hr	2093 hr	4185 hr
	High	188 hr	376 hr	564 hr	1128 hr	1880 hr	2820 hr	5640 hr
	Middle	275 hr	559 hr	837 hr	1674 hr	2790 hr	4185 hr	8370 hr
	Low	560 hr	1119 hr	1679 hr	3357 hr	5595 hr	8393 hr	16785 hr
160GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	186 hr	372 hr	558 hr	1116 hr	1860 hr	2790 hr	5580 hr
	High	250 hr	500 hr	750 hr	1500 hr	2500 hr	3750 hr	7500 hr
	Middle	372 hr	744 hr	1488 hr	2232 hr	3720 hr	5580 hr	11160 hr
	Low	746 hr	1492 hr	2984 hr	4476 hr	7460 hr	11190 hr	22380 hr
250GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	279 hr	558 hr	837 hr	1674 hr	2790 hr	4185 hr	8370 hr
	High	375 hr	750 hr	1125 hr	2250 hr	3750 hr	5625 hr	11250 hr
	Middle	558 hr	1116 hr	1674 hr	3348 hr	5580 hr	8370 hr	16740 hr
	Low	1119 hr	2238 hr	3357 hr	6714 hr	11190 hr	16785 hr	33570 hr
300GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	372 hr	744 hr	1116 hr	2232 hr	3720 hr	5580 hr	11160 hr
	High	500 hr	1000 hr	1500 hr	3000 hr	5000 hr	7500 hr	15000 hr
	Middle	744 hr	1488 hr	2232 hr	4464 hr	7440 hr	11160 hr	22320 hr
	Low	1492 hr	2984 hr	4476 hr	8952 hr	14920 hr	22380 hr	44760 hr
400GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	465 hr	930 hr	1395 hr	2790 hr	4650 hr	6975 hr	13950 hr
	High	625 hr	1250 hr	1875 hr	3750 hr	6250 hr	9375 hr	18750 hr
	Middle	930 hr	1860 hr	2790 hr	5580 hr	9300 hr	13950 hr	27900 hr
	Low	1865 hr	3730 hr	5595 hr	11190 hr	18650 hr	27975 hr	55950 hr
500GB HDD								
PPS (Picture Per Sec.)		30	15	10	5	3	2	1
Record Quality	Best	558 hr	1116 hr	1674 hr	3348 hr	5580 hr	8370 hr	16740 hr
	High	750 hr	1500 hr	2250 hr	4500 hr	7500 hr	11250 hr	22500 hr
	Middle	1116 hr	2232 hr	3348 hr	6696 hr	11160 hr	16740 hr	33480 hr
	Low	2238 hr	4476 hr	6714 hr	13428 hr	22380 hr	33570 hr	67140 hr

PAL

80GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	112 hr	223 hr	279 hr	558 hr	930 hr	1395 hr	2790 hr
	High	167 hr	334 hr	418 hr	835 hr	1336 hr	2005 hr	4175 hr
	Middle	223 hr	447 hr	558 hr	1116 hr	1860 hr	2790 hr	5580 hr
	Low	448 hr	896 hr	1119 hr	2238 hr	3730 hr	5595 hr	11190 hr
120GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	168 hr	335 hr	419 hr	837 hr	1395 hr	2093 hr	4185 hr
	High	251 hr	502 hr	628 hr	1255 hr	2008 hr	3012 hr	6275 hr
	Middle	330 hr	671 hr	837 hr	1674 hr	2790 hr	4185 hr	8370 hr
	Low	672 hr	1343 hr	1679 hr	3357 hr	5595 hr	8393 hr	16785 hr
160GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	149 hr	447 hr	744 hr	1116 hr	1860 hr	2790 hr	5580 hr
	High	334 hr	668 hr	835 hr	1670 hr	2672 hr	4008 hr	8350 hr
	Middle	447 hr	893 hr	1488 hr	2232 hr	3720 hr	5580 hr	11160 hr
	Low	895 hr	1791 hr	2984 hr	4476 hr	7460 hr	11190 hr	22380 hr
250GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	335 hr	670 hr	837 hr	1674 hr	2790 hr	4185 hr	8370 hr
	High	501 hr	1002 hr	1253 hr	2505 hr	4008 hr	6012 hr	12525 hr
	Middle	670 hr	1340 hr	1674 hr	3348 hr	5580 hr	8370 hr	16740 hr
	Low	1343 hr	2686 hr	3357 hr	6714 hr	11190 hr	16785 hr	33570 hr
300GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	447 hr	893 hr	1116 hr	2232 hr	3720 hr	5580 hr	11160 hr
	High	668 hr	1336 hr	1670 hr	3340 hr	5344 hr	8016 hr	16700 hr
	Middle	893 hr	1786 hr	2232 hr	4464 hr	7440 hr	11160 hr	22320 hr
	Low	1791 hr	3581 hr	4476 hr	8952 hr	14920 hr	22380 hr	44760 hr
400GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	558 hr	1116 hr	1395 hr	2790 hr	4650 hr	6975 hr	13950 hr
	High	835 hr	1670 hr	2088 hr	4175 hr	6680 hr	10020 hr	20875 hr
	Middle	1116 hr	2232 hr	2790 hr	5580 hr	9300 hr	13950 hr	27900 hr
	Low	2238 hr	4476 hr	5595 hr	11190 hr	18650 hr	27975 hr	55950 hr
500GB HDD								
PPS (Picture Per Sec.)		25	12	10	5	3	2	1
Record Quality	Best	670 hr	1340 hr	1674 hr	3348 hr	5580 hr	8370 hr	16740 hr
	High	1002 hr	2004 hr	2505 hr	5010 hr	8016 hr	12024 hr	25050 hr
	Middle	1340 hr	2678 hr	3348 hr	6696 hr	11160 hr	16740 hr	33480 hr
	Low	2686 hr	5371 hr	6714 hr	13428 hr	22380 hr	33570 hr	67140 hr

APPENDIX B: POWER COMSUMPTION TABLE

Brand	Model	Capacity	Speed (rpm)
Hitachi	HDS728080PLAT20	80GB	7200 rpm
Hitachi	HDS721616PLAT80	160GB	7200 rpm
Hitachi	HDT72516DLAT80	160GB	7200 rpm
Hitachi	HDT72520DLAT80	200GB	7200 rpm
Hitachi	HDT722525DLAT80	250GB	7200 rpm
Hitachi	HDS724040KLAT80	400GB	7200 rpm
Hitachi	HDS725050KLAT80	500GB	7200 rpm
WD	WD2000JB-00REA0	200GB	7200 rpm
WD	WD2500JB-00REA0	250GB	7200 rpm
WD	WD3200JB-00KFA0	320GB	7200 rpm
Seagate	ST3802110A	80GB	7200 rpm
Seagate	ST3120814A	120GB	7200 rpm
Seagate	ST3160812A	160GB	7200 rpm
Seagate	ST3250620A	250GB	7200 rpm
Seagate	ST3400620A	400GB	7200 rpm
Seagate	ST3500630A	500GB	7200 rpm
Maxtor	6H500R0	500GB	7200 rpm

Brand	Model	Capacity
Kingston	DataTraveler II+	512MB
Kingston	DataTraveler II+	1GB
SanDisk	Cruzer Micro with Skins	256MB
SanDisk	Cruzer Titanium	512MB
SanDisk	Cruzer Titanium	1GB
Transcend	TS128MJFLASHA	128MB
Transcend	JetFlash 110	512MB
Transcend	JetFlash 110	1GB